

## What Improvements Are Being Made To Infrastructure?

The City of San Diego Water Department is currently undergoing an extensive Capital Improvements Program (CIP). The program extends throughout the City, and includes upgrading and expanding the City's water treatment plants, constructing new pump stations and reservoirs, rehabilitating aging facilities, and replacing outdated water mains. The City dedicated approximately \$129 million to water infrastructure improvements in 1999. To find out more about any of the improvements call the CIP Public Information Line at (619) 533-4679.

## New Speakers Bureau Program

The Water Department launched its new Speakers Bureau Program in 1999. You can request a speaker to meet with your business, civic or social group to present slide shows on General Water Issues, the Capital Improvements Program, Conservation, Reclamation, and Water Quality and Treatment. In fact, the City made over 150 presentations last year on water issues in San Diego. For more information contact Donna Sharkey, Speaker's Bureau Program Coordinator, at (619) 533-6638.



## How Can I Get More Information?

The City of San Diego holds bi-monthly meetings on water issues. Please call our Public Information Line at (619) 533-4679 for more information. For specific questions on water quality, contact John Chaffin, Water Quality Superintendent, at (619) 668-3233. To learn more about the Water Department's various programs including water quality, conservation tips, and lakes and recreation activities, visit us on the internet at: [ci.san-diego.ca.us/water](http://ci.san-diego.ca.us/water).

*This information is available in alternative formats upon request.*

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Water Department Operations Division  
2797 Caminito Chollas, MS 43  
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Important  
Water Quality  
Information



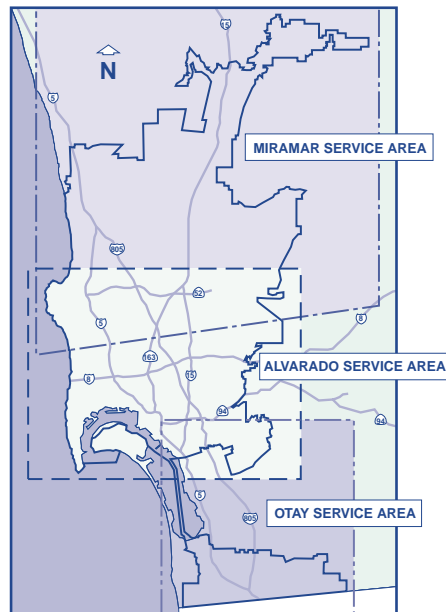
## What Is This Report About?

This new report provides a snapshot of the quality of water provided to customers last year in the City of San Diego. This new format replaces the previous Water Quality Report. Included are details about where your water comes from, what it contains, and how it compares to state and federal standards. We are committed to providing you with information because informed customers are educated consumers.

*El informe contiene información importante sobre la calidad del agua en su comunidad. Tradúzcalo o hable con alguien que lo entienda bien. Copias en español de este reporte cerca de la calidad de agua están disponibles si llama al (619) 527-3121.*

## Where Does My Water Come From?

Depending on where you live in the City of San Diego, you get your water from one of three water treatment plants. Their service areas are shown on the map. Customers in the southern communities of San Diego get their water from the Otay Water Treatment Plant, those living in central San Diego get their water from the Alvarado Plant, and customers in the north get water from the Miramar Plant. The City maintains nine water storage reservoirs which along with water purchased from the San Diego County Water Authority (CWA) constitute the source waters for these plants. The CWA purchases Colorado River and State Water Project water from the Sacramento-San Joaquin Delta in Northern California. It is this constantly changing blend of high total dissolved solids and nutrient-rich imported water that can account for occasional taste and odor problems in your drinking water.



## Important Health Information

Some people may be more vulnerable to contaminants in drinking water than the general population. Immuno-compromised persons such as persons with cancer undergoing chemotherapy, persons who have undergone organ transplants, people with HIV/AIDS or other immune system disorders, some elderly, and infants can be particularly at risk from infections. These people should seek advice about drinking water from their health care providers. More information about the United States Environmental Protection Agency (EPA)/Center for Disease Control (CDC) guidelines on appropriate means to lessen the risk of infection by *Cryptosporidium* or other microbial contaminants, and potential health effects can be obtained by calling the EPA's Safe Drinking Water Hotline (800-426-4791). During calendar year 1999, the City of San Diego analyzed all of our source waters and *Cryptosporidium* was not detected.

## What Else Should I Know?

In order to ensure that tap water is safe to drink, the California Department of Health Services (DHS) prescribes regulations which limit the amount of certain contaminants in the water provided by public water systems. The City of San Diego's Water Department treats all our water according to DHS regulations. The DHS also establishes limits for contaminants in bottled water that provide the same protection for public health.

Drinking water, including bottled water, may reasonably be expected to contain at least small amounts of some contaminants. The presence of contaminants does not necessarily indicate that the water poses a health risk. More information about contaminants and potential health effects can be obtained by calling the EPA's Safe Drinking Water Hotline (800-426-4791).

## Why Is There Anything In My Water?

The sources of drinking water (both tap water and bottled water) include rivers, lakes, streams, ponds, reservoirs, springs, and wells. As water travels over the surface of the land or through the ground, it dissolves naturally-occurring minerals and, in some cases, radioactive material, and can pick up substances resulting from the presence of animals or from human activity. Contaminants that may be present in source waters before we treat it include:

**Microbial contaminants** – such as viruses, protozoa and bacteria, which may come from sewage treatment plants, septic systems, agricultural livestock operations and wildlife.

**Inorganic contaminants** – such as salts and metals, which can be naturally-occurring or result from urban stormwater runoff, industrial or domestic wastewater discharges, oil and gas production, mining or farming.

**Pesticides and herbicides** – which may come from a variety of sources such as agriculture and residential uses.

**Radioactive contaminants** – which are naturally occurring.

**Organic chemical contaminants** – including synthetic and volatile organic chemicals, which are by-products of industrial processes and petroleum production, and can also come from gas stations, urban stormwater runoff, and septic systems.

In January 1996, the City of San Diego completed a "Watershed Sanitary Survey." This survey examines the potential impacts of the watershed surrounding the nine reservoirs maintained by the City. The Executive Summary of this document can be requested by contacting the Water Department's Public Information Office at (619) 527-3121. This survey is currently being repeated and the new report will be available after January 2001. We encourage all San Diegans to take an active role in supporting pollution prevention programs in their communities.

## 1999 Water Quality Results

During calendar year 1999, the City of San Diego's Water Quality Laboratory conducted over 236,000 tests for drinking water contaminants. We only detected 33 contaminants and *none* at a level higher than the state or federal standards allow.

## What Do All These Terms And Acronyms Mean?

**Public Health Goal (PHG):** The level of a contaminant in drinking water below which there is no known or expected risk to health. PHGs are set by the Cal-EPA.

**Maximum Contaminant Level Goal (MCLG):** The level of a contaminant in drinking water below which there is no known or expected risk to health. MCLGs are set by the EPA.

**Maximum Contaminant Level (MCL):** The highest level of a contaminant that is allowed in drinking water. *Primary* MCLs are set as close to the PHGs (or MCLGs) as is economically or technologically feasible. *Secondary* MCLs (SMCL) are set by the Cal-EPA to control the odor, taste, and appearance of drinking water.

**Regulatory Action Level (AL):** The concentration of a contaminant which, when exceeded, triggers treatment or other requirements that a water system must follow.

**Corrosivity:** The corrosivity of a sample is measured by the Langlier Stability Index. A positive index, indicating non-corrosivity, was maintained at all our plants.

**MDL:** The City of San Diego Water Quality Laboratory's *Method Detection Limit*. Lowest quantifiable concentration of a measured contaminant detectable by the Laboratory.

## How Do I Read The Tables?

For calendar year 1999, your tap water met all EPA and DHS drinking water health standards. The City of San Diego's Water Department vigilantly safeguards its water supplies and is proud to report that, in our nearly 100 year history, our extensive water system met all state and federal standards.

Unless otherwise noted, the data presented in these tables are from tests performed between January 1 through December 31, 1999. Certain contaminants are not required by the DHS to be tested for yearly. Therefore, some of the data is more than one year old yet is representative of the water quality. Many other compounds were tested for but were not found at detectable levels. You can request a copy of these test results by contacting the Public Information Office at (619) 527-3121 or find them on the Water Department's web page.

**Table 1** lists all the regulated CCR contaminants with Primary MCLs that the City of San Diego's Water Quality Laboratory detected in the drinking water at a level at or above the DHS's Detection Limits for Purposes of Reporting (DLRs) during the 1999 calendar year. The presence of these contaminants in the drinking water does not necessarily indicate that the water poses a health risk.

**Table 2** is a listing of regulated contaminants with Secondary MCLs that were detected at or above the DHS's DLR for each contaminant.

**Table 3** is a listing of regulated contaminants with no MCLs that were detected at or above the DHS's DLR for each contaminant.

## Important Phone Numbers

General Information ..... (619) 515-3500  
 Water Conservation ..... (619) 239-0132  
 Capital Improvements Program ..... (619) 533-4679  
 Water Quality Lab ..... (619) 668-3232  
 Emergency Hotline ..... (619) 515-3525  
 City Lakes Fishing Line ..... (619) 465-3474  
 Public Information Office ..... (619) 527-3121  
 EPA Drinking Water Hotline ..... 800-426-4791

**Table 1 – Detected Regulated CCR Contaminants with Primary MCLs**

Primary Standards (Mandatory Health Related Standards) CHEMICAL CONTAMINANTS												
Contaminant	CCR Units	MCL CCR Units	PHG (MCLG)	MDL	Alvarado	Range	Miramar	Range	Otay	Range	Sample Year	Typical Source of Contaminant
Fluoride	ppm	2	2	0.03	0.238	0.206-0.279	0.266	0.219-0.306	0.311	0.292-0.331	1999	Erosion of natural deposits; dental hygiene water additives; discharge from fertilizer and aluminum factories
Total Trihalomethanes	ppb	100	n/a	0.2	< 57.0	<28.2-89.5	<44.8	<24.5-73.0	<80.8	<28.3-110	1999	By-product of drinking water chlorination

Primary Standards (Mandatory Health Related Standards) RADIOACTIVE CONTAMINANTS												
Gross Beta Particle Activity	pCi/L	50	(0)	--	<3.7	nd-8.8	<3.2	nd-7.2	2.6	1.8-4.2	1998	Decay of natural and manmade deposits
Gross Alpha Particle Activity	pCi/L	15	(0)	--	3.8	1.6-7.0	4.6	2.2-8.9	2.6	1.7-3.2	1998	Erosion of natural deposits
Uranium	pCi/L	20	(0)	--	<1.4	nd-1.8	2.2	1.8-2.5	<0.8	nd-1.1	1998	Erosion of natural deposits

Primary Standards (Mandatory Health Related Standards) MICROBIOLOGICAL CONTAMINANTS												
Total Coliform Bacteria		less than 5% P, TT	(0)	A	0.8	A - P	0	A	0	A	1999	Naturally present in the environment
Turbidity	NTU	TT	TT	0.07	<0.11	nd-0.25	<0.12	nd-1.30	<0.14	nd-0.62	1999	Soil runoff

### Primary Standards (Mandatory Health Related Standards) AT THE TAP CONTAMINANTS

Contaminant	CCR Units	MCL CCR Units	PHG (MCLG)	MDL	# sites tested	# sites above AL	90th Percentile			Typical Source of Contaminant
Lead at the Tap	ppb	AL =15	2	0.5	57	1	5.44			Internal corrosion of household plumbing systems; discharges from industrial manufacturers; erosion of natural deposits

**Table 2 – Detected Regulated CCR Contaminants with Secondary MCLs**

### Primary Standards (Mandatory Health Related Standards) CHEMICAL CONTAMINANTS

Contaminant	CCR Units	State SMCL CCR Units	PHG (MCLG)	MDL	Alvarado	Range	Miramar	Range	Otay	Range	Sample Year	Typical Source of Contaminant
Aluminum	ppb	200	n/a	2	<3.46	nd-18.2	<4.13	nd-14.8	<3.17	nd-8.52	1999	Erosion of natural deposits; residue from some surface water treatment processes
Color	CU	15	n/a	1	<3	nd-5	<3	nd-4	5	1-9	1999	Naturally-occurring organic materials
Corrosivity	--	non-corrosive	n/a	--	0.71	0.42-1.07	0.72	0.59-0.84	0.66	0.49-1.11	1999	Natural or industrially-influenced balance of hydrogen, carbon and oxygen in water. A positive index indicates that the water is non-corrosive.
Hardness – Total	ppm	n/a	n/a	0.6	210	168-246	260	238-290	163	153-193	1999	Leaching from natural deposits
Iron	ppb	300	n/a	50	nd	nd	nd	nd	<50.4	nd-54.7	1999	Leaching from natural deposits; industrial wastes
Manganese	ppb	50	n/a	0.5	<1.11	nd-2.15	<0.57	nd-0.74	<1.24	nd-3.53	1999	Leaching from natural deposits
MTBE	ppb	5	n/a	0.2	1.12	0.82-1.42	1.03	0.68-1.50	1.15	0.81-1.48	1999	Leaking underground storage tanks; discharge from petroleum and chemical factories
Odor – Threshold	OU	3	n/a	1	<1	<1-1	<1	<1	1.80	<1.4-2	1999	Naturally occurring organic materials
Sodium	ppm	n/a	n/a	5	66.8	53.8-81.1	70.7	50.9-79.9	62.2	51.6-67.6	1999	Leaching from natural deposits
Turbidity	NTU	TT >5	n/a	0.07	<0.11	nd-0.25	<0.12	nd-1.30	<0.14	nd-0.62	1999	Soil runoff
Total Dissolved Solids	ppm	1,000	n/a	10	442	316-518	525	479-587	346	312-366	1999	Runoff/leaching from natural deposits
Specific Conductance	µmhos/cm	1,600	n/a	--	725	608-863	837	790-933	624	577-719	1999	Substances that form ions in water; seawater influence
Chloride	ppm	500	n/a	0.5	66.1	54.1-82.8	68.1	54.5-77.9	75.3	62.8-85.6	1999	Runoff/leaching from natural deposits; seawater influence
Sulfate	ppm	500	n/a	0.5	128	81.8-178	183	153-221	38.6	33.8-42.2	1999	Runoff/leaching from natural deposits; industrial wastes

**Table 3 – Detected Regulated CCR Contaminants No MCLs**

### Primary Standards (Mandatory Health Related Standards) CHEMICAL CONTAMINANTS

Contaminant	CCR Units	MCL CCR Units	PHG (MCLG)	MDL	Alvarado	Range	Miramar	Range	Otay	Range	Sample Year
Bromodichloromethane	ppb	n/a	n/a	0.2	19.9	9.97-29.2	15.8	8.93-23.9	30.1	9.87-45.5	1999
Bromoform	ppb	n/a	n/a	0.2	<1.47	nd-2.41	<1.62	nd-2.72	<5.33	nd-6.32	1999
Chlorodibromomethane	ppb	n/a	n/a	0.2	12.2	6.23-16.1	11.2	5.46-15.8	22.9	5.21-32.7	1999
Chloroform	ppb	n/a	n/a	0.2	23.4	9.75-46.1	16.2	9.48-32.7	24.1	9.30-34.3	1999
Haloacetic Acids 5	ppb	n/a	n/a	0.5	<23.8	<17.6-<35.2	<16.9	<14.8-<20.2	<27.9	<25.8-<29.4	1999
Haloketones	ppb	n/a	n/a	0.5	2.19	1.77-2.72	<0.83	<0.73-<0.96	2.67	2.19-3.47	1999
Haloacetonitriles	ppb	n/a	n/a	0.25	<1.54	<1.34-<1.78	<1.28	<1.06-<1.38	<1.23	nd-<1.60	1999
Chlorohydrate	ppb	n/a	n/a	0.25	2.25	1.93-2.80	4.06	3.16-5.70	1.88	1.14-3.37	1999
TOX as Chloride	ppb	n/a	n/a	10	231	181-351	155	119-194	239	128-382	1998
Disinfectant Residual	ppm	n/a	n/a	0.02	2.34	0.89-3.30	2.50	0.92-3.00	2.41	0.88-3.40	1999
Cyanogen Chloride	ppb	n/a	n/a	0.5	4.88	1.68-7.23	2.31	1.31-3.06	5.72	2.18-10.2	1999

### ABBREVIATIONS

**n/a** – not applicable  
**nd** – not detectable at testing limit  
**ppt** – parts per trillion or nanograms per liter (ng/L)  
**ppb** – parts per billion or micrograms per liter (µg/L)  
**ppm** – parts per million or milligrams per liter (mg/L)  
 [e.g., 1 ppm = 1,000 ppb]  
**pCi/L** – picocuries per liter (a measure of radiation)  
**Sample Year** – This column is to record the last time a contaminant was analyzed.  
**TT** – Treatment Technique: a required process intended to reduce the level of a contaminant in drinking water.  
**CU** – Color Units  
**AL** – Action Level  
**OU** – Odor Units  
**µmhos/cm** – measurement of resistivity  
**NTU** – Nephelometric Turbidity Units  
**TOX** – Total Organic Halides

**Parts per million:**

- 3 drops in 42 gallons
- 1 penny in \$10,000
- 1 second in 12 days
- 1 inch in 16 miles

**Parts per billion:**

- 1 drop in 14,000 gallons
- 1 penny in \$10 million
- 1 second in 32 years
- 1 inch in 16,000 miles